Sixth International Conference on
Excellence in Academia:
Assessment of Faculty Research, Teaching,
and Community Service

September 1-3, 2009

Organized by the Ariel University Center of Samaria
Ariel, Israel
Editors
Prof. Michael Zinigrad, Rector of Ariel University Center of Samaria
Prof. Boris E. Starichenco, Ural State Pedagogical University, Ekaterinburg, Russia
Prof. Zilla Sinuany-Stern, Ariel University Center of Samaria, Ariel, Israel
Prof. Roberta Milgram, Ariel University Center of Samaria, Ariel, Israel
Prof. Shmuel Schacham, Ariel University Center of Samaria, Ariel, Israel
Prof. Baruch Offir, Bar Ilan University
Prof. Nira Hativa, Tel-Aviv University
Prof. Yaacov Iram, Bar Ilan University
Dr. Nitza Davidovich, Ariel University Center of Samaria, Ariel, Israel
Dr. Yuri Ribakov, Ariel University Center of Samaria, Ariel, Israel

Participating Institutions:
Achva Academic College, Israel
Ariel University Center of Samaria, Ariel, Israel
Ben-Gurion University of the Negev, Beer-Sheva, Israel
Gordon Academic Teaching College, Haifa, Israel
Haifa University, Israel
Israel Society for Quality
Kinneret College on the Sea of Galilee, Israel
Ministry of Immigrants Absorption
Moscow Center of Continuous Mathematical Education, Moscow, Russia
Moscow State University, Moscow, Russia
Ort Braude College, Israel
Russian State Professional Pedagogical University
School of Education, Bar Ilan University, Israel
Technion, Haifa, Israel
Tel-Aviv University, Israel
University of Applied Sciences Leipzig, Germany
Ural State Pedagogical University, Ekaterinburg, Russia
Ural State University of Economics, Ekaterinburg, Russia

English Editor: Renee Hochman
In the past decade, awareness of quality in academic institutions has grown significantly, especially in Western Europe and the United States. This heightened attention is a by-product of intense competition between academic institutions. Increased interest in quality highlights the need for the development and use of more formalized work standards and procedures, and robust quality assurance systems. A quality perspective is the catalyst for any strategic program that defines an academic institution’s vision, values, targets, and goals.

Academic institutions regard quality as the standard and means by which academic and administrative procedures meet the strategic requirements and goals defined by the institutions’ leadership. The institutional model for assessing and maintaining high quality standards incorporates several components: quality of faculty research, teaching and community service; institutional leadership and strategic planning; student and administration relations; faculty and administrative relations; process, resource and knowledge management; and assessment and analysis of organizational outcomes.

In addition, this year marks two decades of immigration from the former Soviet Union, focusing on the contribution of immigrant scientists and instructors to the academe in general, and to our institution, in particular.

This year’s conference will provide the opportunity to initiate collaboration among scholars interested in the assessment of faculty research, teaching, and community service as a means of promoting excellence in higher education. The conference is directed at educators and administrators, both in and out of higher education; academic scholars and senior administrators, executives and representatives of the industry. The conference is designed to raise awareness of advanced quality management methodologies, as well as of the dilemmas, lessons, and ideas generated by research efforts and practical experience in the field.

We hope that this year’s conference will establish a forum for future collaboration in promoting excellence in academia.

Dr. Nitza Davidovitch
Director of Academic Development & Assessment
Ariel University Center of Samaria
E-mail: d.nitza@ariel.ac.il
The Sixth International Conference on Excellence in Academia:
Assessment of Faculty Research, Teaching, and Community Service
September 1-3, 2009
Ariel University Center of Samaria, Israel
Milken Campus
Building 3a - Third Floor

Tuesday, September 1, 2009

9:00-9:30 Registration and refreshments
9:30-10:00 Greetings
  ❖ Dr. Nitza Davidovich, Director of Academic Development & Assessment, Ariel University Center of Samaria
  ❖ Prof. Michael Zinigrad, Rector of Ariel University Center of Samaria
  ❖ Prof. Boris Starichenko, Ural State Pedagogical University (Yekaterinburg)
  ❖ Prof. Nikolay Rozov, Moscow State University, Moscow

Opening Session
Chairperson Prof. Michael Zinigrad, Ariel University Center of Samaria

10:00-10:20 Prof. Eran Sher, Ben Gurion University
“The characteristics of BG University rector-awarded lecturers”

10:20-10:40 Prof. Baruch Offir, Bar Ilan University. Head of Distance Learning Laboratory
"From research to application: The process of change in education"

10:40-11:00 Mr. Haim Kornfeld, Chairman of the Israel Society for Quality
"Academia, industry and government: A love story"

11:00-11:20 Prof. Nikolay Rozov, Moscow State University, Moscow
"Pedagogical education as a generative function of universities”

11:20-11:50 Coffee Break

11:50-12:10 Dr. Vinodhini Reardon, US Embassies in Moscow
"Distance education: Maximizing success by offering partial support"

12:10-12:30 Dr. Yossi Bar, Gordon Academic Teaching College, Haifa
“Developing self-directed learning skills”

12:30-12:50 Prof. Zvi Shiller, Ariel University Center
"Project-driven engineering education"

12:50-13:20 Dr. David Pundak, Kinneret College on the Sea of Galilee and ORT Braude College, Israel
“Diagnosing innovation in academic teaching”

13:20-14:15 LUNCH
Chairperson: Dr. Boaz Ben Moshe, Ariel University Center of Samaria

14:15-14:30  Dr. Tamar Gadrich, Chairperson, Quality Management Committee
Industrial Engineering and Management Department, Ort Braude College
"Quality management at the Ort Braude College"

14:30-14:45  Dr. Boaz Ben Moshe, Noan Lidany, and Elad Yitschaki, Ariel University Center of Samaria
“Advanced methodologies for using clickers in the classroom”

14:45-15:00  Dr. Etty Grobgeld, Achva Academic College of Education
"Defining the role of faculty members of a teacher training institution"

15:00-15:15  Dr. Marina Mamontova, Ural State Pedagogical University (Yekaterinburg)
"Activity statistical control: quality management system improvement"

15:15-15:30  Mr. Ofir Tzuman, Ariel University Center of Samaria
“From intuition to method: A six-phase model for optimal classroom presentations”

15:30 – 16:00  Coffee Break

16:00-16:15  Prof. Boris Starichenko, Ural State Pedagogical University (Yekaterinburg)
“Reporting and Analyzing current training results as a component of
Internal auditing of educational quality in universities”

16:15-16:30  Dr. Hadassah Litman-Ovadia, Ariel University Center of Samaria
"Positive vocational psychology: The case of AUC alumni"

16:30-16:45  Dr. Nitza Davidovich, Dr. Ya'arit Bokek-Cohen & Dr. Hadassah Litman-Ovadia, Ariel University Center of Samaria
“Teaching quality assessment in a multi-cultural academic institution: The
effect of cultural similarity of students and instructors”

16:45-17:00  Mr. Omer Yagel, DigiSec – Representative of Maplesoft:
"Breakthrough Interactive E-Learning System for Science Teaching"

17: 15  Dinner

Musical performance by Dudi Leibovitz “Hanehsama Lecha”
Wednesday, September 2, 2009  
Campus Milken  
Building 3a- Third Floor

9:00-9:30 Reception and refreshments

Chairperson Prof. Roberta Milgram, Ariel University Center of Samaria

9:30-9:50 Dr. Svetlana Skaraeva, Ural State Pedagogical University  
"A study based on students' evaluations of an assessment course"

9:50-10:10 Dr. Ya’arit Bokek-Cohen, Ariel University Center of Samaria  
"Teaching quality assessment in a cross-cultural context: The potential bias of physical appearance"

10:10-10:30 Dr. Shoshana Rosmarin, Ariel University Center of Samaria  
“The evaluation of lectures and students as perceived by both”

10:30-10:50 Dr. Elena Lobova, State Pedagogical University (Yekaterinburg)  
"Evaluation of school education quality under new high school entrance conditions: A sociological analysis"

10:50-11:10 Prof. Roberta Milgram, Ariel University Center of Samaria  
“Creative thinking and lecturer effectiveness in higher education”

11:00-11:40 Coffee Break

11:40-12:00 Prof. Dan Soen, Ariel University Center of Samaria  
"The link between unit size and performance quality assessments of teaching and administrative faculty: A case study of the Ariel University Center of Samaria"

12:00-12:20 Prof. Israel D. Nebenzahl, Ariel University Center of Samaria  
"Plagiarism and Internet sourcing"

12:20-12:40 Ms. Danit Issacs, Ariel University Center of Samaria  
"How Web 2 and Web 3 rescue e-learning"

12:40-13:00 Dr. Boris Bortnik, Ural State University of Economics, Yekaterinburg, Russia  
“A synergetic approach to the problems of modern pedagogic and educational efficiency"

13:00-14:00 LUNCH
# Campus Milken
## Afternoon Parallel Sessions

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Twenty Years of Immigration and its Implications on the Israeli Academia

9:00-9:30 Reception and refreshments

Chairperson Prof. Noach Milgram, Ariel University Center of Samaria

9:30-9:50 Mr. Omri Ingber, Ministry of Immigrants Absorption, "The Israeli Government and the challenges it faces regarding the absorption of new immigrant scientists"

9:50-10:10 Prof. Dan Soen, Ariel University Center of Samaria "Integration of immigrant scientists in the Israeli academia"

10:10-10:30 Prof. Eli Leshem, Ariel University Center of Samaria “Integration of immigrants from the Former Soviet Union in Israel 1990-2005: Main findings of an interdisciplinary infrastructure study”

10:30-10:50 Ms. Marina Rabinovitch, Ariel University Center of Samaria “Men and women immigrants from CIS: The relationship between employee satisfaction, meaning in life, well-being and adjustment of educated immigrants in Israel”

10:50-11:10 Coffee break

Summary Session:

11:10-11:30 Prof. Nira Hativa, Head of the Center for the Advancement of Teaching, Tel Aviv University “Using clickers to promote teaching and learning in large university classes”

11:30-11:50 Dr. Nitzia Davidovich, Ariel University Center “Academic-social climate in support of e-learning: A key to students’ perceptions of academic success”

11:50-12:30 Dr. Nitzia Davidovich, Ariel University Center of Samaria Summary Remarks of Conference Organizers

12:30 LUNCH
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This paper describes a contest based on logic games that were arranged for a class of 4th grade children. The class was divided to three equally sized groups. The contest included six stations. The total time of the contest was one and a half hours. The contest comprised two major parts. The first part contained three mazes drawn on the floor. Every group was given 10 minutes to solve each maze. The second part contained three stations. Every group was given 20 minutes at each station. The first station included measuring puzzles using cups of water, the second station included a code puzzle, and the third station included puzzles with matches. The main goal of this contest was to associate learning math with fun. After being asked by the children to come back next week, it was determined that the goal of this project was achieved. The second goal was to further develop the concept of entertaining mathematical contests with the aim of conducting further research on the project.

Within the emerging changes of the modern era, where information is universally accessible, the issue of student training is incessantly examined: What is the proper method to train students to best fit in the professional world? In the era of enormous accessible databases, professionals are clearly required to remain constantly up-to-date, introduce innovations, and, especially, generate local, unique initiatives.
According to the traditional approach applied in the academic world, academic faculty members initiate and develop their courses, and present a complete curriculum to students. When they teach the course, they emphasize imparting material through a variety of pedagogical methods. It is assumed that these courses will shape the “ideal student” who is able to think critically and independently, identify needs, be innovative, remain up to date, devise programs, execute plans, etc. However, because instructors determine the contents of their courses in their entirety, institutions of higher learning and teacher training institutions lack the foundation to develop genuinely self-directed learners.

In the experimental program, students develop an academic course that is entirely designed and planned by the students under the instructor’s guidance. Although research literature offers various models describing differing degrees of student involvement in determining the topics of study, in this experimental program, courses are developed entirely by the students.

The objective is to teach skills and develop self-directed learners able to identify needs, locate relevant information in databases, use their judgment to select topics for study, construct a clear framework and underlying rationale for the course, develop a syllabus and lesson plans, develop the appropriate teaching methods for the defined target audience, and plan assessment methods.

The research question is: What is the learning culture in courses based on self-directed learning?

Preliminary findings from Stage I of the program disclose the tension and the dilemmas involved in self-directed study, including:

- The level of the instructor’s involvement in developing self-directed learners.
- How effective is the learning of the students who do not actively participate in classroom activities?
- Should complete freedom be granted to students in selecting non-academic data sources?
- Tension between content and process – what should be emphasized?
- How responsible is the instructor for the students’ level of knowledge?
- What are the appropriate assessment means for a course based on self-directed learning? Who determines how students are graded?
- Who is responsible for class management – the students or the instructor?
Findings point to several benefits: (a) Development of meta-cognitive, motivational, and behavioral traits that indicate students’ active participation in the learning process; (b) Preferred teaching style: Most students believe that instruction based on self-directed learning is appropriate but they also noted a significant disadvantage of this method. Students believe that they do not have the opportunity to learn directly from their instructor, who is an expert in the field. Some even noted that the reason they chose a specific course was to study with a specific professor; (c) A high level of responsibility and conscientiousness in performing the tasks. Students showed a great sense of responsibility in performing their self-selected tasks and they reported much effort was invested in the course compared to other courses; (d) The opportunity to determine and develop course contents demonstrates to students that their opinions are meaningful. This is an empowering process that enhances their sense of association with the course topic, and their involvement in the learning process; (e) Learning experience: Students reported that the course was a “once-in-a-lifetime” experience that they will remember for many years. They stressed their enjoyment in participating in the process.

TEACHING ENGINEERING VS. EDUCATING ENGINEERS

Barak A. Z.

Ariel University Center of Samaria, Ariel, Israel

Turning a student into an engineer is a two-fold activity. The basic level is teaching – the other is education. Teaching itself is a combination of (a) the simple, logical materials – the technology, and (b) the "agreed-upon" material, i.e., the professional language comprising category terms, concepts, and notations. The latter may cause problems as different engineers sometimes use the same word or notation for different items and, vice versa, different engineers sometimes use different words or notations for the same item.

In my opinion, education is related to values. Professional values including (a) responsibility and diligence towards the engineer's employers and customers, supplying them with best quality products and results on a timely basis, avoiding any waste of their time, money, and other resources; (b) fulfilling technical, schedule, and economic obligations; (c) co-ordination, co-operation and maximizing harmony with
colleagues, subordinates, employers, and customers; (d) preventing and avoiding accidents and failures by orderly work patterns and by effectively checking and rechecking designs, calculations, and other engineering procedures and documents; and (e) real and full understanding of the technological and mathematical data and procedures.

In my 50 years of engineering experience, I have witnessed many adverse professional incidents that resulted from "poor engineering" caused by limited awareness of these values. I believe that if in my six years of teaching, and particularly educating, my many hundreds of engineering students, I have prevented even a single major accident; I may have contributed more as a teacher than in my entire career as a design and R&D engineer.

**STUDYING METHODS AND FACILITIES FOR CONTROL OF STRUCTURAL DYNAMIC BEHAVIOR USING THE SIMULINK PACKAGE**

Blostotsky B., Efraim E.

Department of Civil Engineering, Engineering, Ariel University Center of Samaria, Ariel, Israel

Agranovich G.

Department of Electrical and Electronics Engineering, Ariel University Center of Samaria, Ariel, Israel

An important stage in training civil engineers is the study of methods and facilities for structural behavior control under the influence of wind, earthquakes, and various man-made vibration loadings. For decision-making substantiation on application of control facilities, the understanding of dynamic processes is important. It requires visual representation of the nature of the change of the system’s most essential parameters of behavior over time, depending on the type and parameters of applied control facilities.

This paper proposes an active learning method of mathematical models that represent the dynamic behavior of structures under dynamic loads. In this method,
mathematical models are developed and tested under the teacher’s supervision during class hours, results are analyzed, and practical conclusions are drawn.

To implement this method in the learning process, construction of models using the Library of Structural Elements and Control Devices under a Simulink environment is proposed. The Simulink toolbox facilitates development of a mathematical model that visually reflects the real physical processes in the structure. Development of mathematical models for inclusion in the learning process during frontal teaching is simple and offers the possibility to visualize any parameter of model functioning, and quickly and conveniently change a model’s characteristic parameters.

The learning process is based on visualization of dynamic processes with representation and measurement of structural behavior parameters that are dependent on the type and parameters of passive control facilities (e.g., dampers, friction pendulum bearings) and their combinations.

Simulink schemes for different types of passive control systems were developed by the authors. Their application in developing and testing mathematical models of the investigated structure is presented in this paper. The teaching process that uses this method in the class work of undergraduate courses is presented and explained.

TEACHING ADVANCED PROBLEMS OF STRUCTURAL DYNAMICS USING A SMALL-SCALE LABORATORY SHAKE TABLE

Blostotsky B., Efraim E. & Ribakov Y.

Department of Civil Engineering, Ariel University Center of Samaria, Ariel, Israel

A small-scale laboratory shake table is a very useful tool for studying structural models’ dynamic behavior under real forces, and investigating active and passive structural control systems efficiency. Theoretical principles, forming a basis for numerical modeling of structural dynamic response, should be consistent with real behavior of structures. “Hands-on” experiments demonstrate basic concepts in structural dynamics and offer an opportunity for undergraduate students to develop deep understanding of structural response to different dynamic loads. This paper addresses programming of different types of dynamic loadings and using additional
facilities for studying structural response. Loads can be programmed as impulse or continuous, and stochastic or prescribed in time and in magnitude. Forces can be applied to an investigated structure directly to the structural elements or by accelerating the shake table. Changing the platform's position is used to create dynamic loads acting in different directions, including vertical. Implementation of the developed tools in undergraduate courses is presented in the paper.

A SYNERGETIC APPROACH TO THE PROBLEMS OF MODERN PEDAGOGY AND EDUCATIONAL EFFICIENCY

Bortnik B. I., Kozhina A. V. & Kozhina G. A.
Ural State University of Economics, Ekaterinburg, Russia

The main question posed by the article is whether it is possible and advisable to consider modern pedagogical issues from the perspective of synergetics. The article gives a synergetic interpretation of the educational process, analyzing its dimensions in synergetic terms and showing the appropriateness of these terms to the essential nature and specifics of the educational process. Emphasis is placed on the problems of educational management, the system of providing and assessing the quality of education. These problems are also addressed on the basis of a synergetic approach for the purpose of discussing the efficiency of the complex self-organizing system of education. The article considers the possibility of synergetic management of an education quality system.

ON THE ACTIVITIES OF THE MOSCOW CENTER FOR CONTINUOUS MATHEMATICAL EDUCATION

Bugaenko V.
Moscow Center of Continuous Mathematical Education, Moscow, Russia

The extraordinarily high level of mathematics education in the Soviet Union is universally recognized. The prestige of Soviet mathematics education is a consequence of the enormous work of many enthusiasts involved in both school and university education. This work includes publication of mathematical books,
organization of networks of mathematical circles and special classes, and scientific work in universities and institutes. The Moscow Center for Continuous Mathematical Education (MCCME) was founded in the mid-1990s to support this tradition in modern Russia. Its activities include work with pupils as early as primary school, to scientists of the highest level. The Center for Organizing Circles and Olympiads for Schoolchildren, a publishing house for mathematical books, and the Independent University of Moscow (IUM) operate in MCCME. The IUM is a small university but is already well-known for the scientific achievements of its students and post-graduate students. I will speak about different directions of MCCME’s activities.

TEACHING QUALITY ASSESSMENT IN A CROSS-CULTURAL CONTEXT: THE POTENTIAL BIAS OF PHYSICAL APPEARANCE

Bokek-Cohen Y.
Department of Economics and Business Administration, Ariel University Center of Samaria, Ariel, Israel

Davidovich N.
Director of Academic Development and Assessment Department, Ariel University Center of Samaria, Ariel, Israel

Most studies on the beauty premium of college professors have been conducted in Western countries, mainly the United States and Canada. The present paper focuses on the impact of professors’ physical attractiveness on their teaching ratings awarded by three ethno-cultural student populations (native Israelis, FSU immigrants, and Ethiopian immigrants) at a large public college in Israel. We asked the participants to look at photographs of attractive professors (rated in a previous study) and rate the quality of their teaching based solely on the photographs. It was found that both female and male professors were awarded a beauty premium by all three groups. Our findings confirm results of previous studies in the USA and Germany and suggest that the beauty premium exists across diverse ethnic groups. Our conclusion may have
practical implications when evaluating employee performance in a multicultural global economy in general, and in intercultural academic settings in particular.

**READINESS OF HIGH SCHOOL TEACHERS TO USE DISTANCE EDUCATION TECHNOLOGIES**

Chubarkova E. V.  
Associate Professor, Russian State Professional Pedagogical University  
Ekaterinburg

Lomovtseva N. V.  
Russian State Professional Pedagogical University  
Teacher, Ekaterinburg

Effective and practical use in education of information and communication technologies, including distance education technologies (ICT and DOT), is impossible without teachers’ readiness to use such technologies in their professional educational activities. ICT and DOT have significantly changed the teaching profession, as well as the structure, content, and quality of education. This article addresses the issue of teachers' readiness to use the university distance education technologies.

**THE LINK BETWEEN UNIT SIZE AND PERFORMANCE ASSESSMENTS OF TEACHING AND ADMINISTRATIVE FACULTY: A CASE STUDY OF THE ARIEL UNIVERSITY CENTER OF SAMARIA**

Davidovitch N.  
Ariel University Center of Samaria, Ariel, Israel

Soen D.  
Ariel University Center of Samaria, Ariel, Israel; and Graduate School, Kibbutzim School of Education, Tel-Aviv

This paper explores the association between faculty and department size at the Ariel University Center, and assessment ratings awarded by students to members of the
administrative and teaching staff. The main research question relates to the links between unit size and assessment scores. Furthermore, this study seeks an answer to the question of whether any link exists between scores granted to administrative staff and teaching staff, and whether any individual or scholastic variable affects students’ assessments of staff performance. The study is based on an analysis of 23,000 questionnaires completed by students in the 2007–2008 academic year reflecting students’ assessments of the teaching faculty, and 1,900 questionnaires in which students assessed the administrative staff in their department of study. The main conclusion of this study is a significant inverse statistical association between unit size and student assessment scores of the administrative staff.

ACADEMIC SOCIAL CLIMATE IN SUPPORT OF E-LEARNING: A KEY TO STUDENTS' PERCEPTION OF ACADEMIC SUCCESS

Davidovitch N.
Ariel University Center of Samaria, Ariel, Israel

Soen D.
Ariel University Center of Samaria; Graduate School and Kibbutzim School of Education, Tel-Aviv

This paper is based on a study that examined students’ perceptions of social-academic climate in several faculties and departments at the Ariel University Center over five years. Findings indicate the significance that students attribute to various dimensions of social-academic climate. Findings also show that students in faculties and departments that are characterized by positive inter-personal interactions between students and instructors attribute greater significance to instructors’ attitudes to students, and less significance to course organization. In faculties and departments in which interpersonal interactions between students and instructors are not intensive, students attribute significance to scholastic aspects of courses. Even in the technological era, social-academic climate has not lost its importance, and its contribution to students’ sense of satisfaction is critical.
The fall of the Iron Curtain in 1989 paved the way for the emigration of approximately 1 million Jews from the FSU to Israel, a group that included academic scholars and researchers who found employment in academic institutions in Israel.

In the present study, we focus on student satisfaction, comparing native Israeli and FSU immigrant students, as a measure of the successful integration of immigrant scientists as members of the faculty of the Ariel University Center of Samaria, compared to their Israeli-born counterparts. As higher education becomes increasingly accessible by students with varying levels of academic preparedness, faculty have grown increasingly aware of the importance of the opinions of students – the system’s consumers – on teaching. This study examines the extent to which students’ evaluations are affected by cultural similarity or difference between students and instructors. Do student evaluations differ as a function of their country of birth, and as a function of the country of origin of their instructors?

Modern Internet technologies open new possibilities to a wide spectrum of traditional methods used in mathematical education. One of the areas in which these technologies can be effectively used is the organization of mathematical competitions. Contestants can remain in their schools or universities in different cities and even different countries, solve as many mathematical problems as possible, and then submit their solutions to organizers through the Internet. Simple Internet technologies
supply audio and video connection between participants and organizers during the competitions.

QUALITY MANAGEMENT AT THE ORT BRAUDE COLLEGE

Gadrich T.
Chairman, Quality Management Committee, Ort Braude College

Ort Braude College (OBC), located in the north of Israel (Karmiel), is an academic institution offering seven academic programs leading to a Bachelor of Science (B.Sc.) degree: Biotechnology Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Information Systems Engineering, Software Engineering, Industrial Engineering and Management, and Applied Mathematics. Currently, about 2,600 students are enrolled in the engineering degree programs and an additional 1,100 students are studying for their Practical Engineering certification.

The OBC Vision Statement declares that the College strives to be the first choice for students and faculty, and works to promote excellence in teaching and research while emphasizing the needs and strengths of the individual. In parallel, OBC aims to play a leading role in community activities and development of the Galilee.

OBC cultivates a culture of quality and excellence. The College perceives quality as an attribute based upon which its policies, resources, and administrative and academic procedures can satisfactorily meet the requirements and strategic goals defined by its stakeholders. The College’s model for quality management (based on the Malcolm Baldrige National Quality Award (MBNQA)) comprises seven criteria: leadership; strategic planning; focus on students and other interested parties; focus on academic faculty and administrative staff; process and resource management; assessment, analysis, and knowledge management; and organizational outcomes. This quality perception is the result of the 2004–2008 OBC strategic plan, which sets out the College’s vision, values, goals, and objectives.

Quality at OBC is achieved owing to a high academic level and the quality of the College’s services. The advances made in these directions were facilitated by a quality management system established in 2002. The framework for quality management promotion includes the following academic and administrative activities:
establishment and activation of improvement teams; accompaniment and processing of polls of its clients: students, staff, graduates, and employers; periodic assessment of the performance level of the main processes; evaluation of administrative employees and academic staff; and since 2007, hosting an annual Galilee Quality Conference that provides a platform for fruitful synergy between the academia and industry on various aspects of quality.

DEFINING THE ROLE OF FACULTY MEMBERS OF A TEACHER TRAINING INSTITUTION

Grob geld E., Teichman -Weinberg A., Wasserman E. & Barchilon-Ben Av M.

Achva Academic College of Education

As part of the process of quality assurance, over the last few years the need has arisen to define the roles of faculty members in teacher training institutions. The purpose of this study was to involve faculty members in this role definition process.

In order to undertake our research, we asked faculty members at one teacher training institution to respond to the following question: "What are the roles/obligations of a faculty member at a teacher training institution? Please list those that are important in your opinion."

Thirty responses were obtained, on which we performed a content analysis. Based on this analysis, we designed a closed questionnaire containing 65 items. The questionnaire was distributed electronically to 150 faculty members of a teacher training institute; 93 responded. A factor analysis showed three factors:

1. The lecturer as instructor,
2. The lecturer as a member of the organization,
3. The lecturers' personal relationships.

Significant statistical differences were found between the factors among different populations, such as position holders versus non-position holders, and between disciplinary lecturers versus pedagogical advisors.

USING CLICKERS TO PROMOTE TEACHING AND LEARNING IN LARGE UNIVERSITY CLASSES

Hativa N.
Clickers are personal remote response devices (based on infrared or radio frequency technology) that are used by all the students in a classroom to transmit and record their responses. When students complete their voting, a histogram of the classroom voting results is displayed on a large screen in the classroom.

Clickers allow teachers to maintain continuous communications with their students during a lesson. The major benefit of clickers is in large classes of over 40 students, where teachers find it difficult to obtain feedback on teaching from the majority of the students.

I briefly introduce the technological aspects of clickers, and focus on the following pedagogical applications of clickers in the classroom: (a) Learning management applications, such as recording attendance, granting extra credit for participation in classroom votes, or determining (partial) course grade on correct answers to questions presented by the teacher in the classroom; (b) Pedagogical applications, including various methods for collecting data on students and their learning, promoting clarity of teaching, cultivating students’ interest and reasoning in the classroom, and obtaining feedback on teachers’ teaching during the course and after a course is completed.

EDUCATION AND RESEARCH IN STRUCTURAL ENGINEERING: CO-OPERATION AND PERSPECTIVES

Holschemacher K.
Dean, Faculty of Civil Engineering and Architecture, University of Applied Sciences, Leipzig, Germany

Ribakov Y.
Department of Civil Engineering, Ariel University Center of Samaria, Ariel, Israel

Michel-Quapp U.
Senior official, Faculty of Civil Engineering and Architecture, University of Applied Sciences, Leipzig, Germany
The universities of applied sciences in Germany have been known for many years as higher education institutions for highly qualified engineers. The Israeli higher education system has recently established academic colleges to offer a greater number of students the opportunity to earn a degree, find better jobs, and improve their potential life quality. Currently the number of undergraduate students in universities of applied sciences in Israel surpasses the number of university students. Cooperation in research and education was recently established between the Department of Civil Engineering at the largest university center in Israel, Ariel University Center of Samaria, and the Faculty of Civil Engineering and Architecture at the University of Applied Sciences in Leipzig, which is the largest faculty for civil engineering and architecture of all universities of applied sciences in Germany. Experimental work on fiber-reinforced concrete, recently conducted at the laboratory in Leipzig, was the first research project within the frame of this cooperation. Initialcontacts with the faculty members and graduate students resulted in the idea of delivering a special course on modern trends in seismic design for graduate students in Leipzig. Currently, faculty members from Leipzig and Ariel are studying possibilities for developing a curriculum for a common M.Sc. degree, which will facilitate student exchanges and promote beneficial relations between the universities.

HOW WEB II AND WEB III RESCUE E-LEARNING

Isaacs D.
Ariel University Center of Samaria, Ariel, Israel

The first decade of E-learning (1998–2002) was characterized by great progress in the technical-communicative and administrative aspects of learning, yet unfortunately, the cognitive, social, and pedagogical aspects of learning were mostly neglected. Students preferred purchasing hard copies of textbooks rather than registering for online courses. In addition, research studies that compared students’ achievements in online courses to achievements using conventional learning methods found no advantage to the online courses.

In the USA, the investment of venture capital funds in academic E-learning products and services declined from $482 million in 2000 to $17 million in the first half of
2002. Leading educational sources say that the first generation of E-learning has failed. This failure has been attributed to the first generation’s inability to perceive the great potential of the Internet as a means of improving the quality of learning, using it instead as an administrative tool and means of delivery. As Richard Clark stated in 1983: "...Media are mere vehicles that deliver instruction but do not influence student achievement any more than the truck that delivers groceries causes change in our nutrition."
The emergence of Web II (social networks) and Web III (semantic web) gave rise to the second generation of E-learning. If this second generation succeeds in harnessing the features of Webs II & III to the learning process, it is expected to result in more significant and higher quality learning. In this respect, the computer is perceived as an amplifier of the mind. This notion is supported by Marshall McLuhan's (1964) idea that technologies are enhancements of human abilities, just as the microphone amplifies the human voice and the hammer is a powerful extension of the arm, so the computer should be an extension of the mind. According to this approach, the Internet is an enhancement of human communication and socialization.

Today, in the era of Web II, the age of the social networks, new collaborative technologies and web tools are being incorporated into E-learning, such as blogs, mini-blogs, pod-casting, social bookmarking, social tagging, wikis, mobile interfaces, and other innovations. These web tools create a learning environment that is learner-oriented, user-centered, non-hierarchical, non-linear, and a truly interactive experience. These improvements in technology are expected to bring about a higher quality of learning.

The vision of Web III, the semantic web, has triggered the evolution of XML (Extensible Markup Language). XML is taking the learning industry a step forward, through standardization of learning objects’ meta-data. This enables cataloging online learning materials and forming searchable collections. These collections serve virtual communities of faculty and students around the world and allow them to find learning objects that are tailored to their specific learning needs. As a result, they are able to share their learning materials and contribute to the enrichment of the body of knowledge. Examples of such projects are MERLOT and IMS/GLC in the USA, and LOM in Europe.

As technology rapidly evolves, educators must embrace educational innovations, put them into practice, and commit themselves to creating high-quality learning
experiences. These learning experiences should inspire students – the next generation workforce and citizens of the Web – to devote themselves to lifelong learning, prospering, and thriving.

**MATHEMATICAL PROBLEMS POSING AS A LEARNING SITUATION**

*Kontorovich I.*

Technion – Israel Institute of Technology

During the last 70 years, problem posing has made great strides toward wide recognition by the mathematics education community as a powerful learning situation. However, problem posing is still rarely observed in regular mathematics classrooms. Moreover, its cognitive, social, and pedagogical aspects do not appear to be sufficiently understood. The goal of this presentation is to review current research on problem posing in mathematics education and to illustrate its educational potential in several mathematical topics.

**WHAT IS SO SPECIAL ABOUT PROBLEM-SOLVING BY MATHEMATICALLY GIFTED STUDENTS?**

*Koichu B.*

Technion – Israel Institute of Technology

How can the apparent uniqueness of the problem-solving processes in the gifted be captured? To what extent is the widespread belief that mathematically gifted students "think differently" when solving problems valid? The presentation addresses these questions by discussing three possible threats to the validity of research on problem-solving by gifted school children. The discussions of the threats converge to several methodological recommendations and more questions.

**METHODOLOGIES FOR THE USE OF CLICKERS IN EDUCATIONAL SETTINGS**

*Lidany N., Yitschaki E., Ben-Moshe B. & Davidovich N.*

Ariel University Center of Samaria, Ariel, Israel
A classroom response system (also known as a “clicker system”) is a computer-guided communication system designed to promote interaction between teachers and students. The clicker system was developed to improve lecture quality and encourage participation from the students. Clickers help teachers by providing immediate feedback from students, so that students’ comprehension and concerns can be quickly addressed.

In clicker systems, each student uses a device (a "clicker") that looks like a TV remote to answer questions posed by the instructor in a specially-designed presentation. Summaries of the students’ responses can be displayed in real time to both teachers and students. Answers are also stored in a database for subsequent reviewing. Daily tasks, such as attendance reports, conducting quizzes and returning the results, can be completed in a matter of seconds. The system also encourages active participation from shy students by allowing responses that are almost anonymous.

Today the system is mainly used in the United States in college and university classes and occasionally in high schools as well. However, installation and operation of the related software is often complicated, and there seems to be no common methodology for using it. Therefore many teachers avoid using this complicated system. The main research goal was to develop a general methodology for using a clicker system to provide the following benefits: increase classroom participation, make lectures more interactive, increase efficient use of instructor’s time, and lower costs, while maintaining a simple and user-friendly system suitable for the average teacher and the average student.

Performance of the following classroom tasks using a clicker system will be demonstrated:

- Attendance check – list of attendance is available within seconds.
- Conduct a survey (spontaneous or prepared) – results are presented in a graph.
- Conduct a quick quiz – separate result obtained for every student.
- Play social games – demonstration of a group game application.

The results of this research will be used as a platform to promote implementation utilizing a wide variety of course management systems such as Moodle and an assortment of commercial software packages such as Power-Point. The system’s emphasis is on simplicity and adaptability to almost any type of teaching task.
This research was conducted by Noan Lidany and Elad Yitschaki, as part of their undergraduate computer science project, under the supervision of Boaz Ben-Moshe and Nitza Davidovich.

**POSITIVE VOCATIONAL PSYCHOLOGY**

Littman-Ovadia H.
Department of Behavioral Sciences, Ariel University Center of Samaria, Ariel, Israel

Davidovitch N.
Academic Development and Assessment Unit, Ariel University Center of Samaria, Ariel, Israel

This research examines the relationship of work adjustment and personal well-being of graduates of the Ariel University Center in Samaria, their everyday use of character strengths, and the fit or congruence between their field of academic studies and current field of employment. The researchers concluded that strength deployment predicted work satisfaction, work success, and general well-being, while congruence of studies and work predicted career commitment. Furthermore, it was found that study–work congruence moderates the relationship between strength deployment and well-being such that the greater the congruence, the stronger the association between strength deployment and well-being. The researchers recommend integrating the theory and research methodology of vocational psychology and positive psychology in order to achieve a more comprehensive understanding of positive life and work outcomes.
STATISTICAL CONTROL OF ACADEMIC ACTIVITY: QUALITY MANAGEMENT SYSTEM IMPROVEMENT

Mamontova M. Y.
Ural State Pedagogical University, Ekaterinburg, Russia

The paper looks into the quality assurance of university specialist training that meets state educational standards. Systemic statistical control over academic activities is used as a means of ensuring universities' transition from an orientation toward control over the final result, to the concept of identification and prevention of deficiencies in specialist training. Statistical control is understood as an adjustment of the parameters of academic activities based on the results of random statistical testing of student proficiency. Shewhart control charts, Pareto charts, and synchronic and diachronic analysis of results obtained in the course of student assessment are the major methods used. Application of statistical control methods facilitates feedback in academic activities and changes, and improves management and process control. The paper presents methods of statistical control over academic activities and its application at universities to provide and support the required level of specialist training quality.

CREATIVE THINKING AND LECTURER EFFECTIVENESS IN HIGHER EDUCATION

Milgram R. M.
Ariel University Center of Samaria, Ariel, Israel and
Tel-Aviv University, Ramat Aviv, Israel

Davidovitch N.
Ariel University Center of Samaria, Ariel, Israel

Very little attention has been given in the research literature to the role of creative thinking in teaching effectiveness. There are many diverse opinions on teacher effectiveness but very little serious theory-driven, evidence-based knowledge. In a series of studies conducted at the Ariel University Center, we examined creative thinking as a predictor of teacher effectiveness in higher education. In the first study, a strong correlation, \( r = .64, p < .0001 \), was found between creative thinking and one
of the criterion measures, i.e., teacher effectiveness measured by creative thinking in solving real-life educational problems that arise in higher education settings. On the other hand, the surprising finding in this study was that the relationship between creative thinking and the evaluation of effectiveness scores that the lecturer received from the students was not significant.

In the second study, the evaluation forms on which students were asked to evaluate teaching effectiveness included items designed specifically to assess creative thinking in teaching. The correlation between student ratings of creative thinking in their lecturers and their ratings of the overall effectiveness of teaching in 350 lecturers was .76, p< .001.

In the third study we used a revised evaluation form and re-examined the question of creative thinking as a predictor of teaching effectiveness at the higher education level. Scores on the measure of domain-specific creative thinking, that is, creative thinking as measured by real-life problem-solving, were significantly related to student evaluations of their lecturers’ creative teaching behavior (.31, p<.01). The findings have important implications for how we understand the educational process. The evidence that creative thinking ability is important to students in their lecturers at the higher education level would justify the recommendation that the identification and enhancement of creative thinking in lecturers is a goal worthy of major attention by university authorities.

Data on the role of challenging leisure activities in predicting creative accomplishments has accumulated over the years in Israeli research. The major psychometric tool used to assess leisure activities in these studies is the Activities & Accomplishments Inventory (AAI). Substantial evidence has accumulated that demonstrates construct, predictive, and concurrent validity of the AAI (Milgram & Livne, 2006). Our most recent research efforts use the challenging leisure activities approach and the AAI instrument with populations that until now have not been studied, that is, with university-level students and lecturers. On the basis of a series of pilot studies, we were able to identify several problems in assessing challenging leisure activities in these groups. We are continuing to develop research in this unique area and we invite collaboration from the participants of this conference.
RANGE SYSTEM FOR DEFINING CRITERIA OF PEDAGOGICAL INNOVATION

Mironova L.
Ural State Pedagogical University, Ekaterinburg, Russia

The article describes an algorithm defining criteria for evaluating innovations, based on Hutorskoy’s typology of pedagogical innovations. As pedagogical processes have a nonparametric character, we suggest using the well-known method of ranges, which provides an expert evaluation. As a result, we should be able to define the degree to which a pedagogical innovation can be considered new.

PLAGIARISM AND INTERNET SOURCING

Nebenzahl O.
Beit Berl College, Israel

Nebenzahl I. D.
Ariel University Center of Samaria, Ariel, Israel

Plagiarism, the presentation of someone else’s work as one’s own, is a known ethical problem in academia. Yet, recent advances in Internet technology and applications have raised this ethical issue to unexpected new levels and dimensions.

In this paper we discuss ethical dimensions of plagiarism from three different points of view. The first is the perspective of students who are required to prepare term papers, theses, and dissertations. For these students, searching the Internet for sources is a legitimate research activity. The purchase or otherwise reproduction of complete works is clearly immoral. Ethical issues are raised in the “gray” area of “copying and pasting” without proper citation of sources.

The second point of view is that of lecturers who assign such academic works. Ethical issues are raised when they suspect that a submitted work is not original or that it includes contributions of others without proper referencing. How much effort, namely, time and energy, should they spend trying to resolve their suspicions? How should they treat students who submit works that are suspected or even proven to constitute plagiarism?
The third point of view is that of institutions of learning. Given the well-documented increasing use of plagiarism, what should be the institution’s policy regarding plagiarism? For example, should the use of plagiarism-identifying software be required in grading suspected works? Of all works? Finally, we also discuss the implications of the above ethical issues for society as a whole.

FROM RESEARCH TO APPLICATION – THE PROCESS OF CHANGE IN EDUCATION

Offir B.

Head of Distance Learning Laboratory
School of Education, Bar-Ilan University, Israel

Despite its importance, the education system is not developing at pace with the needs of society, while great developments are taking place in other fields, such as agriculture and medicine. Engraved above the entrance to the Rubin Museum of Art in New York is the saying of 19th-century French author Alexander Dumas: "How is it that little children are so intelligent and men so stupid? It must be education that does it." In this paper I discuss the differences between agriculture, medicine, engineering, and education, and explore the reasons that we see rapid changes in agriculture, medicine, and engineering, while similar changes fail to occur in education.

SOME ASPECTS IN THE STUDY OF MATHEMATICS FOR INTERNATIONAL STUDENTS OLYMPIADS

Pletea A. & Roman M.

Department of Mathematics, Gheorghe Asachi Technical University, Iasi, Romania

We present the current status of study of mathematics in Romania and a strategy for improving the preparation of students from Gheorghe Asachi Technical University for national and international contests. Recent results of our team are emphasized.
Over the past decade, researchers and lecturers in Israel and around the world have attempted to promote active learning in academic courses. The process of introducing innovation in teaching based on the adoption of active teaching approaches has a long, complex history. In many fields of teaching it is difficult to introduce innovations even when this would clearly be advantageous and beneficial (Rogers, 1995). The Israeli Ministry of Education has recently begun to promote research designed to encourage students and teachers to teach and learn in a more meaningful manner. This approach develops inquisitive and creative thought, and is mirrored by a critique of the process of preparing students for their matriculation examinations, which, in many cases, encourages rote learning rather than the development of higher cognitive skills.

Institutions of higher education are affected by a similar dilemma. Teachers in these institutions strive to conform to an intensive, demanding curriculum that leaves little time for students to develop a profound understanding of the study subjects. Findings from studies on innovative teaching methods that involve students in conducting lessons in basic science, engineering, and technology courses suggest that these methods enhance students’ achievements, improve their understanding of the study material, and increase their involvement and responsibility for the learning process.
The present study focuses on immigrants from the FSU, and the enormous influx during the 1990s of highly educated immigrants who are now employed. We examine the correlations between the following variables: overall adjustment in Israel, personal well-being, sense of significance in life, and work satisfaction. Differences between men and women were also studied. The study population comprised 39 male and 40 female FSU immigrants aged 34–69 who have lived in Israel for an average of 16.8 years. Over one-half (54.4%) of the study population currently work in their pre-immigration field of employment.

In contrast with predictions, no difference was found in the proportion of men and women who continued to work in Israel in their original field of employment. As predicted, a positive correlation was found between perceived fit of professional level and occupation in Israel, and work satisfaction and adjustment in Israel. This correlation was significant for men only. Another interesting finding was a positive correlation between the perceived fit of professional level and occupation in Israel, and the number of years in Israel since immigration. Furthermore, positive correlations were found between adjustment, personal welfare, a sense of life meaning, and work satisfaction. The present study contributes to our understanding of the adjustment process of highly educated new immigrants in the employment market, and the differences between men and women in that context.
DISTANCE EDUCATION: MAXIMIZING SUCCESS BY OFFERING PARTIAL SUPPORT

Reardon V. & Skaraeva S.

Ural State Pedagogical University, Ekaterinburg, Russia

The purpose of this article is to focus on how success can be maximized in the context of diverse language-learning environments when all forms of media converge on a digital platform. While it is generally believed that rapidly advancing technologies provide unlimited potential to support virtual learning environments, it is often less readily acknowledged how “partial support” (perceived as quality face-to-face encounters) can, in some cases, contribute to more effective teaching-learning practices, for example, when learning a new language. Thus, this presentation will address some of the principles underlying the web-based learning design of an English course that was piloted as an ESP course (English for Specific Purposes) for Information Technology (IT) professionals at a Russian university. Specifically, the article will emphasize the pedagogical implications of the course in terms of student–faculty interaction and assessment measures.

BRIDGING THE GAP BETWEEN VOCATIONAL EDUCATION AND TRAINING AND HIGHER EDUCATION – DEVELOPMENT OF AN ACCREDITATION OF PRIOR CERTIFICATED LEARNING (APCL) PROCEDURE FOR A CONTINUING CIVIL ENGINEERING STUDY COURSE IN GERMANY

Reichelt B. & Schreier B.

University of Applied Sciences, Leipzig, Germany

Accreditation of Prior Learning (APL) is an essential part of the Bologna Process in higher education and will influence the policy and infrastructure of the higher education system. APL will overcome the long-standing separation of higher education and vocational education and training, especially in Germany.
The main goals of APL are to enhance individual potential and competencies as part of lifelong learning, and to promote employability, active citizenship, and social inclusion. The process of establishing APL procedures in the EU is still in its infancy.

The article will introduce the special state of vocational and higher education of civil and constructional engineering in Germany and Austria, followed by a description of the principles of accreditation of prior formal and informal learning from vocational education and training, and from work for higher education programs.

In the case study, application of quality assured APL model procedure is introduced. This procedure is developed for a continuing civil engineering diploma study course at the University of Applied Sciences, Leipzig, which is operated in conjunction with an Austrian education provider.

PEDAGOGICAL EDUCATION OF STUDENTS AND POSTGRADUATES – THE SYSTEM-FORMING FUNCTION OF UNIVERSITIES

Rozov N. Kh.

Dean of Faculty of Professors Training, Moscow State University

In recent years, increasing attention has been directed to the focused, integrative development of teachers, especially for high education. Clearly, the internal rationale and concept of university education creates an indivisible unity of two components: The first is scientific. The fundamental study of a specific field of knowledge and active acquisition of basic research skills prepare the individual for creative work in a scientific institution or other sectors. The second is pedagogical, providing in-depth theoretical training and practical mastery of the foundations of the art of education, which prepares the individual for teaching. The scientific and pedagogical components of university education should be treated as a natural and necessary combination. The critical reason for this is the objective, closely related internal law of progress in science and higher education: neither science nor education can continue to advance or develop without training the younger generation.
A STUDY BASED ON STUDENTS’ EVALUATIONS OF AN ASSESSMENT COURSE

Skaraeva S., Starichenko B. & Reardon V.
Ural State Pedagogical University, Ekaterinburg, Russia

The focus of this presentation is directed at examining the feedback elicited from students who participated in an assessment course offered at a Russian university. The purpose of obtaining the feedback from students was related to the idea of improving course content and/or delivery in the future. Thus, the presentation will address the ramifications of the analysis based on the feedback that was made available to the instructors. Different categories of feedback will be discussed in depth (from both quantitative and qualitative perspectives).

THE EVALUATION OF LECTURERS AND STUDENTS AS PERCEIVED BY BOTH

Rosmarin S.
Ariel University Center

The goal of the study was to investigate the attitudes of lecturers (71 from various academic institutions in Israel) and students (138 from the Ariel University Center of Samaria) regarding the evaluation of both lecturers and students. Participants responded to a two-part questionnaire developed by the investigator. The first investigates attitudes towards the evaluation of lecturers and the second, attitudes towards the evaluation of students. Both parts include items which participants rate on a scale of 1 to 5, expressing the level of their agreement. In addition, each part contains one open-ended question, asking the subjects to choose the five most preferable criteria for evaluating both lecturers and students from a list of traits. Through the use of $t^2$ and $\chi^2$, the responses of lecturers and students were compared. In general, students exhibited greater agreement with most of the attitudes related to evaluations of lecturers. In contrast to lecturers, students attributed great importance to the preparation for their future careers, while the lecturers, unlike the students, attributed great importance to the development of thinking.
No clear tendency is seen in the attitudes toward student evaluation. Although both students and lecturers did not attribute the utmost importance to research skills, the lecturers awarded a much higher rating to research skills than did the students.

"I HATE MATHEMATICS"

Segal R.
Ariel University Center of Samaria, Ariel, Israel

From the dawn of history to the present, and even into the distant future, mathematics continues to accompany human culture. Every place man has set foot, in all societies, math appears in some form: from counting sheep to super-computer calculations. Math surrounds us in our daily life and a new math exhibition in the Havayeda (Havaya = Experience + Yeda = knowledge) Museum intends to reveal this. The purpose of the exhibits is to amplify awareness of the linkage between everyday phenomena and mathematics, a bond that seems to be very distant and disconnected for most people. These hands-on exhibits deal with subjects that are very familiar to children: the human body, urban environment, world maps, etc. In using these subjects, the children are exposed to the invisible strings that connect everyday life with mathematics.

For instance, the human body provides us with many mathematical experiences. Three exhibits deal with the human body: "What's the meter" shows proportions, "Mirror mirror on the wall" demonstrates symmetry, and "Making faces" illustrates combinatorics.

Another example is taken from the world of geography. The "The world is round" exhibit enables the visitor to compare a flat map with the map on a globe, thus revealing the differences between them. This experiential transition from two to three dimensions offers a glimpse into non-Euclidean geometry.

Most math exhibitions around the world are designed from a mathematical point of view, thus beginning with a math topic and trying to demonstrate and explain it by familiar user friendly examples. This exhibition uses the opposite approach.
INTEGRATION OF IMMIGRANT SCIENTISTS IN ISRAELI ACADEMIA
Sinuany-Stern Z., Davidovich N. & Soen D.
Ariel University Center of Samaria, Ariel, Israel

This case study is the first to compare achievement measures of senior immigrant and native Israeli academic faculty. It is based on the analysis of performance records of 206 senior faculty members from the Ariel University Center of Samaria, of whom 77 were born overseas. The study analyzes faculty members who received financial rewards for outstanding performance in the three-year period 2006–2008, based on their activities, as measured by several criteria: excellence in research, teaching, academic administration, and contributions to the community. In addition, links between faculty achievements on the one hand and personal traits (gender, age, seniority) and characteristics of their academic work (rank, tenure, and representation on senate committees) on the other, were examined as well. On the whole, the study revealed that a larger percentage of immigrant faculty members vs. native Israelis scored high on excellence criteria. A discriminate analysis was performed in order to examine to what degree scoring on various excellence criteria distinguishes between immigrant and native Israeli faculty. No differences were found in general. All in all, the research reveals that immigrant scientists have become well-integrated in the investigated institution.

THE QUALITY OF A PROFESSIONALLY ORIENTED EDUCATIONAL PROCESS IN TERMS OF USING INFORMATION AND COMMUNICATION TECHNOLOGIES
Semenova I. & Slepukhin A.
Ural State Pedagogical University, Ekaterinburg, Russia

This article discusses an approach to the definition of quality of the educational process and selection of basic indicators of its quality from the pedagogue-organizer’s point of view. The authors demonstrate the role of information and communications technology, not only as one of the quality indicators of a professionally-oriented educational process, but also as one of the main means of its evaluation.
This article considers the technological workshop format of third-year students in “Information Technologies in Education”, Students were invited to design and install a segment of the structured cable system (SCS), as well as configure the active equipment. The theoretical part of the training includes information on standards for SCS, design technologies, and basic knowledge required for the organization of a wired or wireless network segment. Training to work with the equipment included both virtual models and full-fledged real devices. Considerable time is given to practical efforts to build the project SCS in real buildings – the calculation of materials, followed by mounting of a cable system, installation and configuration of switchboards, and “turn-key” access points. This approach allows students to produce their own work, usually hidden from the eyes of the users, and gain an idea of the internal structure of SCS and data transmission technologies in wired and wireless networks.

Information-pedagogical model of distant Communications of The teacher and students

Starichenko B. E.
Ural State Pedagogical University, Ekaterinburg, Russia

Davidovich N. & Yavich R.
Ariel University Center of Samaria, Ariel, Israel

This article is devoted to a description of the theoretical foundations and structure of information-pedagogical models of teacher and student telecommunication interactions in subject matter development. Specification of communication means that the educational process can be remotely managed. On the basis of the proposed model, it is possible to develop real systems intended to be used in the training process and management in all forms of higher education, including full-time study.
ACCUMULATION AND ANALYSIS OF CURRENT TRAINING RESULTS AS A COMPONENT OF INTERNAL AUDITING OF EDUCATIONAL QUALITY IN UNIVERSITIES

Starichenko B. E.

Ural State Pedagogical University, Ekaterinburg, Russia

This article describes an internal training quality audit method and analysis of data on students’ progress, called “the accumulated grade method” (MAG) by the author. Its implementation, even using standard MS Excel, provides teachers with more information on individual and group features of the students’ progress in learning the discipline. This method permits predicting training outcomes based on current results, and also promotes management decisions that will be relevant to the training situation. For a student, the accumulated grade becomes an additional incentive for systematic training.

FROM INTUITION TO METHOD – A SIX-PHASE MODEL FOR OPTIMAL CLASSROOM PRESENTATIONS

Tzuman O.

The Six-Phase Model facilitates definition of the objective of presentations designed for learning purposes, and helps instructors develop a structurally sound presentation. The Model guides instructors in analyzing students’ needs in advance, organizing the topic of study in a meaningful structure, and incorporating illustrative material and elements that add interest. The use of emotions and adherence to careful planning is advised.
EVALUATION OF SCHOOL EDUCATION QUALITY UNDER NEW ENTRANCE CONDITIONS: A SOCIOLOGICAL ANALYSIS

Rubina L. Y.
Head of the Department of Sociology, Ural State Pedagogical University,
Ekaterinburg, Russia

Pryamikova E. V.
Lobova E. V.
Department of Theoretical and Applied Sociology, Ural State Pedagogical University,
Ekaterinburg, Russia

This article presents data from a research project conducted in 2006–2007, the aim of which is defined as studying the needs of the population for quality education and additional educational services. Demand for quality increases in the transition from secondary school to higher education, under the new entrance conditions.

BREAKTHROUGH INTERACTIVE E-LEARNING SYSTEM FOR SCIENCE TEACHING

Yagel O.
DigiSec – Representative of Maplesoft

Personal – adaptive tutoring is no doubt the best method of teaching. However, it is also the least economic method with respect to use of resources and hence least practiced. With the evolvement of modern technology it is made possible to produce computerized tutors who overcome these economic shortcomings and improve education significantly. The lecture surveys a new class of interactive science e-Books, Internet infrastructure to produce and present mathematical – scientific content and a system which automatically generates exercises, home assignments and exams, then check and grade them and finally report on student’s performance.
All these breaking through technologies are based on Maple unique mathematical engine and its range of new educational tools: